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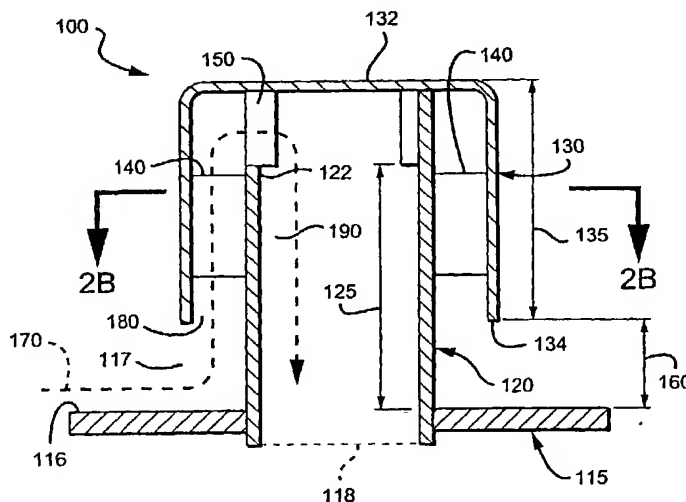
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(54) Title: METHODS AND APPARATUS FOR MIXING FLUIDS



(57) Abstract: A bubble cap (100) has a riser (120) and a cap (130), separated by a divider (140) that extends to a length at least 50 % of a distance measured between the top of the riser (122) and the bottom of the cap (134). In another aspect, the riser (120) and cap (130) cooperate to provide a skirt height (160) of no less than 1.5". More preferred bubble caps (400) have a relatively high skirt height (460) or long slit length (497), or both. In yet another aspect, flow-redistributing vanes (610) and plates (630) cooperate to provide a rough distribution of fluids to subsequent distribution tray (650).

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